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Export Barriers and Problems Associated with Exporting of Icelandic Marine Products Under conditions of Export or Die

Abstract

We have examined perceived barriers to the export of Icelandic marine products and how they have changed over a period of nearly 20 years. We used qualitative and quantitative information from two different surveys conducted in 1993 and 2011. We identified nine main barriers to export which existed in both 1993 and 2011, plus a further seven factors which prevailed only in 1993 or only in 2011. Further, we distinguished whether these factors were internal or external to the decision area of the Icelandic export firms. This paper details the outcome of each survey, compares them quantitatively and explains the patterns observed using the survey interviews of exporters. Our results indicate that over about twenty years, the Icelandic marine export sector has shifted its emphasis towards more advanced or further processed products and away relatively from commodities exports

KEYWORDS *Iceland, marine products exporters, export barriers, export behavior*

Introduction

Export behavior has provoked a wide range of debate from a variety of perspectives, ranging from discussions on the supply side of international trade (Bilkey, 1978) to the human aspects of export behavior (Mellier, 1974; Reid, 1981), export decision making and organizational determinants of export behavior (Cavusgil, 1976). There is still only a limited number of studies that focus on the export behavior of firms in developing countries, and on firms exporting various primary commodities, such as marine or agricultural goods. In particular, studies dealing with firms and industries where export is the prerequisite for existence and survival due to a small home market (export or die) are similarly very limited.

This article focuses on the perceived barriers, obstacles or problems associated with exporting of marine products from Iceland and how these barriers have developed or changed over a period of nearly two decades from 1992 to 2011. The study was first carried out among Icelandic exporters of marine products in 1992-1993 as a part of broader research (Bjarnason, 1994) and then partly replicated in the year 2011, targeting the same reference group of exporters. The results from the two studies outlined in the article are to be particularly useful for governmental decision makers who are dealing with economic- and industrial policy making but also relevant for managers in the fishing industry who are responsible for export- management and marketing.

Background

1 The Icelandic economy is an export driven economy, where close to half of the
2 growth in the GDP since the World War II can be attributed to the fishing industry.ⁱ
3 From 1945 to 2007 export of goods and services represented on average about 37% of
4 the GDP and after the economic collapse in Iceland 2008, export represented 56.5%
5 (OECD,2011).

6 In 1991 Iceland was among the 10 principal exporting nations of fishery
7 commodities in the world in terms of value, with a global share of around 3.5 per cent
8 (UNCTAD,1991) but in 2009 FAO (the Food and Agricultural Organization) ranked
9 Iceland the 18th largest exporter of fishing commodities out of 194 countries with a
10 total export of USD 1.739 million. (FAO, 2011). The country's share of the total world
11 catch in inland and marine fishing areas is, however, only about 2 per cent.

12 Consumption of fish and fish products in Iceland is one of the highest per
13 capita consumption in the world. However, only between one and two per cent of the
14 total fish catch is consumed domestically and the rest is exported, which means that
15 the Icelandic fishing industry is distinctively characterized by "export or die".

16 Economic performance in Iceland is largely based on the performance of the
17 fishing industry, its exports volume and foreign market prices. Despite Iceland's
18 position as a developed market economy, its exporting activity has some
19 characteristics of many developing countries. More than 95 per cent of the country's
20 merchandise export value comprises primary commodities, mainly aluminum and
21 marine products. In 2010 the share of marine products in the total export of goods and
22 services was around 39%.

23 Up to 2008, marine products were the leading export staple from Iceland, but
24 since 2008 aluminum has become the single biggest export category. The reduced
25 export share of marine products does not, however, indicate that the export of marine
26 products has decreased per se, but means that export of aluminum has grown
27 significantly in the last decade. The real export value of marine products from Iceland
28 grew on the average around 3.8 per cent per year, during the period between 1972 and
29 2010, with all the main product categories showing substantial growth. This
30 dependence on the export of natural resources and primary commodities has led to
31 more fluctuations in Iceland's export income and gross domestic products than in any
32 other OECD countries.

33 In the 1930s and 1940s the main shape of the marine products export sector
34 in Iceland was created by the establishment of four export organizations, with strong
35 support from the Icelandic governments. The level of Government incentive came
36 either through direct involvement in the establishing and organization of these firms,
37 or in the granting of exclusive licenses for the export of certain product categories,
38 mainly frozen and salted. These export organizations were in most cases owned by the
39 relevant producers of the marine products exported or were operated on a cooperative
40 basis. In the early 1970s a similar export organization was established in the canned

ⁱ The term fishing industry, comprises in this article the activities of marine fisheries, and processing and exporting of marine products.

1 sector. However, the export of fresh fish and fish- oil and meal, was usually more
2 decentralized. This position was largely unchanged, until the 1980s and 1990s.

3 According to a study by Bjarnason (1994) in the early 1990s the process of
4 internationalization by the Icelandic marine products exporters is largely characterized
5 by the, "export or die" peculiarity of the Icelandic fishing industry which means that
6 firms leap straight into exporting without prior development in the domestic market.
7 Furthermore, he argued that three principal factors were characteristic of the export
8 sector's development during the 1980s.

9 First, there was a relatively steady increase in the export- volume and prices of
10 all the main marine product categories.

11 Second, during the 1980s important structural changes emerged within the
12 export sector as the principal export organizations lost substantial share in the
13 total export of marine products from Iceland and a number of new firms
14 entered the sector, especially in the second half of the 1980s.

15 Third, in the 1980s significant changes appeared in the distribution of
16 Icelandic marine products exports, by market areas. The most apparent shift
17 was a move away from the US market toward the European market. According
18 to Bjarnason, (1994) this change was caused by the relative closeness of the
19 European market compared to the U.S. market, as felt by managers in many of
20 the smaller and younger firms, and by the experience which many of these
21 managers had from living abroad.

22
23 Bjarnason (1994) grouped export companies into two main types: "export
24 management companies" (EMCs) and "partially integrated exporters" (PIEs). The
25 EMCs operated mainly as "commission firms" (umsýslufyrirtæki) where transactions
26 and sales agreements (exports agreements) with foreign buyers were made in the name
27 of the EMC but for the account of the fish processors or producers. The PIE firms
28 however, were partially backward integrated companies, actively involved in at least
29 two of the three defined sectors of the fishing industry, either primary or secondary
30 processing and exporting, or actively involved in all the three defined sectors, i.e.
31 fishery, processing and exporting.

32 Since Bjarnason undertook his research in the early 1990s, significant changes
33 have occurred within the marine product export sector in Iceland and the global
34 environment of companies in general.

35 First, two of the four principal export organizations (EMCs) identified in 1992
36 have ceased operation and the two remaining are no longer owned by their
37 respective producers, but instead owned by individual private equity investors.
38 Furthermore, these companies now act as global traders of various marine
39 products but as before, are seriously involved in further processing at some of
40 their key markets.

41 Second, many of the biggest companies in the fishery and processing sector
42 (PIE firms) who in many cases once owned principal export organizations,

1 have now set up their own export- and marketing operation and become direct
2 exporters of their products.

3 Third, the emergence of sophisticated communication- and transportation
4 technology, such as electronic mail, mobile phones and cool storage
5 containers, have helped Icelandic exporters, rely more on global sourcing of
6 fresh fish and fish products for their sales- and trading activity. Removal or
7 reduction of trade barriers (tariffs, etc.) in international markets have also
8 supported these changes.

9 Fourth, during the period from 1992 to 2010, the distribution of Icelandic
10 marine products exports destination, shifted from the US market to the
11 European market, continuing a trend that started in the 1980s..

12 13 **Research Methodology**

14 As previously stated, the first phase of the research was conducted in 1992-
15 1993. The exploratory nature of the research, and the somewhat heterogeneous
16 population of firms in the export sector of the Icelandic fishing industry, lead to the
17 use of semi-structured interviews with exporting firms as the main instrument in
18 collecting the primary data. The selection of firms was primarily made from the
19 Directory of Icelandic Exporters, published by the Export Council of Iceland in
20 January 1992, and additional information obtained from the Icelandic Fresh Fish
21 Allocation Board, which led to the inclusion of 8 additional firms to the sample,
22 making a total of 70 firms which were approached through an introductory letter. The
23 final number of exporting companies interviewed however, was reduced to 60 firms,
24 for reasons like pairing and merging of some of the firms included in the initial
25 sample, or their cessation of exporting or operation. Personal interviews were carried
26 out in 57 firms and telephone interviews with 3 firms located in rural regions. The
27 interview period lasted from May to August 1992. In all cases, the interviewee was
28 the managing director of the company and in two firms the export sales director
29 participated in the discussions. A typical interview lasted around one and a half hour
30 but, in 5 firms the interviews lasted up to three hours. With the consent of the
31 respondents all the interviews were tape-recorded and then transcribed in Icelandic for
32 later analysis.

33 About 8 months after the conducting of the interviews, a questionnaire, which
34 listed thirty potential obstacles or problems associated with exporting, and which were
35 either indicated by the interviewees as problems or drafted in accordance with the
36 prevailing themes in the prevailing export literature, was sent to the 60 firms
37 previously interviewed. Participants were asked to respond to the thirty elements on a
38 five level Likert scale extending from one ("Not at all problematic") to five
39 ("Extremely problematic"). Two months after the posting of the questionnaire and

1 after the sending of one follow-up letter and three reminders, 56 responses were
2 received to the 30 elements, which gave a response rate of 93.3 per centⁱⁱ.

3 The second phase of the research was conducted in 2011, or nineteen years
4 after the first phase was carried out. To select the group of marine export firms for
5 the study, we had to use information from different resources as the Export Council of
6 Icelandⁱⁱⁱ had ceased its annual publication of the Directory of Icelandic Exporters and
7 the Icelandic Fresh Fish Allocation Board no longer existed. To construct a list of
8 Icelandic marine product exporters, as accurate- and complete as possible, information
9 was collected from several organizations and publications: the Iceland Trade
10 Directory; the Tax authorities; the Custom Office; The Association of Fish Producers;
11 Promote Iceland; The Confederation of Icelandic Employers; Credit-info; and the
12 Ministry for Foreign Affairs. After thorough analysis and cross-checking, such as by
13 searching the yellow/white pages, the companies web-sites and by contacting some
14 companies by phone, we ended up with a final list of 119 companies, covering more
15 than 95% of all marine products exports from Iceland. This list was used as a target
16 list for the survey questionnaires. To explore whether any new factors of perceived
17 export barriers, needed to be added to thirty elements listed in the previous survey
18 conducted in 1993, we approached by a letter fifteen companies of different size and
19 characteristic, for semi-open interviews. Nine managing directors or chief executives
20 in as many companies expressed willingness to participate in an interview. The
21 interviews were conducted in the period from 5th of August to the 12th of August
22 2011. The interviews lasted from an hour and up to two hours and covered in addition
23 to the issue of perceived barriers and problems associated with exporting, issues like:
24 the internal- and external environment of the export companies, their profile, nature of
25 export, and characteristics of their marine products exports. All the interviews were
26 recorded, with the permission of the participants, and then transcribed into Icelandic.
27 These interviews, revealed five factors obstructing exporting of marine products, that
28 had not been included in the questionnaires of 1993, but which we added to the new
29 questionnaires used in 2011. As in the survey questionnaires of 1993, participants
30 were asked to give their attitude to the listed obstacle factors on a five point Likert
31 scale, marked 1 (“Not at all problematic”) to 5 (“Extremely problematic”). In addition
32 to an introduction letter and the attitudinal questions, we did seek general information
33 about the respective companies such as their size and source of exporting. The
34 introduction letter and the survey questionnaire were first sent out to the sample firms,
35 in the middle of September 2011 by using electronic mail and the specialised webpage
36 cs.create survey.com. All the recipients were promised full anonymity if responding to
37 the survey. Ten weeks after the introduction letter and the questionnaire were sent out

ⁱⁱ After the posting of the questionnaires, it came to the authors knowledge that two of the 60 firms interviewed and which were sent the questionnaires, had ceased operation. This reduced the number of possible responses to 58 questionnaires. The final number of questionnaires returned was 56 or 96,6 per cent (56/58)

we had received responses from 57 companies, which give response rate of 47.9 per cent. In the same ten weeks period we sent out five reminding letters (e-mails) and made follow-up phone calls to selected companies in order to increase the response rate. To analyse the data received in both the 1992 and 2011 surveys, the statistical package SPSS was used, along with the spread-sheet package EXCEL.

To refine our analysis, we processed the data in two ways. First we defined “high score” factors as those that meet two criteria: a mean score of ≥ 2.5 and a median score of ≥ 3 . Then we grouped the identified “high-score” factors as either being “external” i.e. outside the direct control or decision area of the export firms or “internal” i.e. factors which could be controlled by the individual export firms at least to some degree.

To measure whether the sample of exporters in the 2011 survey perceived export obstacles significantly differently from the sample of exporters in the 1993 survey, we performed t-tests of the differences in mean score of each factor common to the two surveys. The mean score of the 2011 survey was tested against a null hypothesis of equality to the mean found in the 1993 survey. The test triggered significant differences upwards and downwards, each at a significance level of 0.05, i.e. at 0.10 significance level when combined as a two-sided test.

Review of the Literature

Barriers to export have been defined as the obstacles, problems, or other impediments that firms encounter while exporting or preparing to export (Leonidou, 1995). Barriers to exporting can be categorized broadly into two groups. First, those barriers which are based on the perception of the decision-maker in the firm, second, those barriers which persist in the external environment such as government rules and regulations. Furthermore, barriers can be subdivided into barriers to enter the foreign market as well as barriers to exports from the domestic base. A common characteristic of most of the studies on perceived barriers to export is their use of quantitative information, collected by using survey questionnaires but the use of qualitative information is rare. Many of these studies are based on relatively small sample size and many of the empirical studies have shown statistically weak results. Also, most of the factors listed as export obstacles in the literature are industry general, and few of the export studies have attempted to identify factors which could be categorized as industry or product specific. Furthermore, export behavioral research have been conducted in western industrialized countries and restricted to relatively few industries, usually industries exporting manufactured or semi-manufactured goods.

The perceived barriers and problems in exporting usually appear to be associated with a number of different factors, such as the firm's degree of

ⁱⁱⁱ The Export Council of Iceland is now called Islandsstofa or Promote Iceland (www.islandsstofa.is)

internationalization (Cavusgil, 1984), personal characteristics of the exporters (Cooper, Kleinschmidt, 1984), type of products exported and geographical location of the firms (Schlegelmilch et.al, 1990). Bilkey and Tesar (1977) argued that the perceived barriers to exporting tended to differ systematically by the firms' export stages and that firms who had obtained their own initial export order, perceived somewhat fewer barriers to exporting than the firms whose initial order was unsolicited.

Ghauri (1991), examined problems faced by smaller Norwegian firms in their export activities. According to Ghauri the most important export obstacles are related to difficulties in sourcing finances and subsidies, and to adapting the products to different markets and building up a distribution network in foreign markets.

Gripsrud (1990) examined perceived barriers by Norwegian exporters of fish and fish products to Japan. His results indicated that there were three principal factors representing perceived barriers to exporting: the price/quality dimension, culture and competition. Furthermore, he was able to show that firm size, main product dried/salted cod, perceived price/quality dimension and perceived cultural dimension all discriminated between firms in terms of experience in exporting or in terms of the management attitude towards future exporting. Gripsrud (1990) concluded that the larger the size of the company the more likely it was to export to Japan. However, if the main product was salted/dried cod, it was less likely the company exported to Japan and fewer the price/quality and cultural obstacles perceived the more likely it was that the company exported to Japan.

In a study conducted in 2001 for OECD,^{iv} Rognvaldur Hannesson (2001), listed the greatest trade barriers in the marine sector as: tariff measures, non-tariff measures such as quantitative restrictions, anti-dumping duties and price controls, government financial transfers, sanitary requirements that differ across countries, access to ports, regulations on foreign investment and regulations on trade in fishing services.

A study by Guillotreau P. et.al. (Guillotreau, Péridy & Bernard; 1998) revealed the main trade barriers on the European seafood trade as being related to product tariffs.

Rocha et.al. (Rocha, Freitas & Silva; 2008) investigated to what extent the perception of export obstacles varied over time, by studying the same sample of Brazilian companies at three points in the 27 year period between 1978 to 2005. The study's main results were: that there remained much more stability in the perceived obstacles to export than the researchers had expected; but it also revealed an unexpected increase in the overall perceptions of obstacles, contradicting the overall belief that managers perception of barriers to export becomes less intense as firms acquire experience in exporting. Furthermore, Rocha et.al. (2008) concluded that the domestic export environment does have an impact on exporter's perceptions of how easy or difficult it is to export.

^{iv} Organization for Economic Co-operation and Development

In a recent study, Kabiri and Moksahapathy (2012) investigated the internal and external barriers faced by Iranian exporters and non-exporters of fruits and vegetables. Their findings revealed that more barriers were related to the external barriers than to the internal ones. Furthermore, that exporters and non-exporters showed a large difference in their views of the internal barriers to export but little differences between their views of the external barriers.

In Table I we summarize the factors most frequently identified as barriers and problems associated with exporting. Some of these factors have been repeatedly identified in studies over a long period. As indicated in Table I the factors most frequently identified have been: difficulty to obtain funds to start exporting; finding and dealing with foreign distributors; currency fluctuations; communication; cultural and language barriers; import duties and non-tariff barriers; paperwork; high production cost; high transportation cost to foreign markets; competition in foreign markets; and lack of people with knowledge in exporting.

Table I

Difficulty in obtaining funds to start exporting	(Bilkey and Tesar ,1977); (Axinn ,1988); (Ghauri, 1991); (Leonidou, 1995); (Suirez-Ortega, 2003)
Finding and dealing with foreign distributors	(Cavusgil, 1984); (Rabino, 1980); (Albaum, 1983); (Kaynak and Kothari, 1984); (Kaynak, 1992); (Dichtl, Koeglmayr and Mueller, 1990).
Currency fluctuations	(Cavusgil, 1984); (Bauerschmidt, Sullivan and Gillespie,1985);(Schlegelmilch, Diamantopoulos and Katy Tse , 1990) (Leonidou, 1995).
Communication	(Czinkota and Johnston, 1983); (Rabino, 1980); (Leonidou, 1995).
Cultural and language barriers	(Rabino, 1980); (Gripsrud, 1990); (Dichtl, Koeglmayr and Mueller, 1990); (Diamantopoulos, Schlegelmilch and Allpress, 1989); (Ahmed, Julian, Baalbaki and Hadidian, 2004); (Buckley and Casson, 1998); (Hornby, Goulding and Poon, 2002).
Import duties and non-tariff barriers	(Rabino, 1980); (Kaynak and Kothari, 1984).
Paperwork	(Czinkota and Johnston, 1983); (Rabino, 1980); (Albaum, 1983); (Axinn, 1988); (Ogram, 1982); (Suirez-Ortega, 2003)
High production cost	(Rabino, 1980); (Kaynak and Kothari, 1984); (Ghauri, 1991).
High transportation cost to foreign markets	(Bauerschmidt, Sullivan and Gillespie, 1985); (Leonidou,1995); (Hummels, 2001).
Competition in foreign markets	(Albaum, 1983); (Kaynak and Kothari, 1984); (Dichtl, Koeglmayr and Mueller, 1990); (Leonidou, 1995); (Suirez-Ortega,2003); (Karafakioglu, 1986)
Lack of people with knowledge in exporting	(Czinkota and Johnston, 1983); (Suirez-Ortega, 2003); (Morgan, Katsikeas, 1997).

Research Findings

As previously stated, our 1993 questionnaire survey contained a list of thirty potential obstacles or problems associated with exporting, which were either indicated by our interviewees in the qualitative part of the research or drafted in accordance with the prevailing themes in the export literature. These thirty factors are listed in Table II in the same order as presented in the survey questionnaires. Based on the interviews we conducted with exporters in the summer of 2011, we added five potential obstacle factors to our questionnaire that were not included in the questionnaires 1993.

Table II

Problems related to the exporting of marine products from Iceland.

Obstacle factor	Results from survey 1993				Results from survey 2011				t-value	Sig. at .05
	No	Mean	Median	SD	No	Mean	Median	SD		
1 Paperwork	56	1,929	2,000	0,871	57	1,536	1,000	0,738	3,985	Yes
2 Seasonal fluctuations in the fish supply	56	3,018	3,000	0,842	57	2,737	3,000	0,992	2,120	Yes
3 High real exchange rate of the Icelandic krona	56	3,018	3,000	1,087	57	2,123	2,000	1,070	6,259	Yes
4 Unstable business environment in Iceland	56	3,518	4,000	0,894	57	3,649	4,000	1,302	-0,753	No
5 Informal ties with producers (processors)	56	2,143	2,000	1,103	57	3,000	3,000	1,581	-4,056	Yes
6 Import tariffs at foreign markets	56	2,875	3,000	1,237	57	2,482	2,000	1,307	2,250	Yes
7 High transportation cost to export markets	56	3,268	3,000	1,018	57	3,912	4,000	1,023	-4,711	Yes
8 Export monopoly licences in Iceland	56	2,018	2,000	1,228	57	1,589	1,000	0,930	3,452	Yes
9 Subsidies granted to foreign competitors	56	3,286	3,000	1,091	57	3,070	3,000	1,083	1,493	No
10 The export of whole fresh fish on ice (unprocessed)	56	2,232	2,000	1,335	57	2,421	2,000	1,164	-1,215	No
11 Shortage of fish due to catch restrictions	56	2,679	3,000	1,064	57	2,772	3,000	0,945	-0,736	No
12 Restrictions in the exporting of whole fresh fish	56	1,643	1,000	1,052	57	1,544	1,000	0,683	1,085	No
13 Geographical distance from export markets	56	2,929	3,000	0,931	57	2,702	3,000	1,295	1,312	No
14 Small home market	56	2,321	2,000	1,114	57	1,684	1,000	1,088	4,381	Yes
15 Small size of the company	56	1,893	2,000	0,731	57	1,842	2,000	0,882	0,433	No
16 Fluctuations in demand at the export markets	56	3,161	3,000	0,826	57	2,526	3,000	0,984	4,829	Yes
17 Foreign exchange restrictions at export markets	56	1,446	1,000	0,761	57	1,947	2,000	0,990	-3,787	Yes
18 Language and cultural differences	56	1,643	2,000	0,699	57	1,929	2,000	0,892	-2,399	Yes
19 Finding reliable buyers abroad	56	2,268	2,000	0,904	57	2,175	2,000	0,869	0,801	No
20 Foreign currencies fluctuations	56	3,036	3,000	0,894	57	2,895	3,000	1,277	0,826	No
21 Obtaining information about financial position of buyers	56	2,268	2,000	0,842	57	2,386	2,000	1,114	-0,793	No
22 Export services provided by the Icelandic banks	56	2,179	2,000	1,146	57	2,526	2,000	1,351	-1,922	Yes
23 Technical requirements at export markets	56	2,196	2,000	0,862	57	2,439	2,000	1,165	-1,561	No
24 Financing export sales	56	2,286	2,000	1,091	57	2,400	2,000	1,196	-0,713	No
25 Geographical location of the company in Iceland	56	1,375	1,000	0,702	57	1,732	1,000	1,168	-2,287	Yes
26 Meeting product quality requirements	56	1,625	1,500	0,702	57	1,518	1,000	0,660	1,213	No
27 Price fluctuations at the export markets	56	3,036	3,000	0,852	57	2,509	2,000	0,966	4,083	Yes
28 High production cost in Iceland	56	3,214	3,000	0,967	57	2,768	3,000	1,279	2,610	Yes
29 Labour union policy in Iceland	56	2,518	2,000	1,095	57	1,842	2,000	0,751	6,736	Yes
30 Obtaining market information	56	2,179	2,000	0,636	57	2,161	2,000	1,023	0,132	No
31 Little governmental support in marketing & promotion					57	3,035	3,000	1,375		
32 Global economic recession					57	3,035	3,000	1,295		
33 Foreign competition (cheap fish from China)					57	2,911	3,000	1,431		
34 Lack of trust among foreign buyers in the aftermath of Icelandic economy collapse in 2008					57	2,491	2,000	1,441		
35 Animal rights pressure groups					57	1,807	2,000	0,854		

As outlined in our section on “research methodology” we sought out “high-score”^v factors representing the most significant factors of export barriers.

In Table III we identify nine factors out of the initial thirty factors measured in both surveys that fulfill the defined criteria of “high-score” factors and are common in both surveys. The “rank column” in Table III reflects how these factors were ranked in terms of importance as export barriers in the two separate surveys. There were three factors which met the criteria of “high-score” factors in the 1993 survey only, but four “high-score” factors were identified in the 2011 survey which were not identified in the 1993 survey. These factors are all listed in Table IV.

As indicated in Table II a t-test was made at a significance level of .05 to measure whether significant differences existed in the factors of barrier, i.e. between the mean value score made by the group of exporters in 1993 and the sample of exporters participating in the survey 2011. Using a significance of .05 and degrees number of freedom as 56, a calculated t-value greater than the one sided critical t-value 1.671, indicates that there are: a) an increase in score between the 1993 group of exporters and the sample of exporters participating in the survey 2011, b) the sample of exporters 2011 is not representative for the exporters domain in 2011 or c) both explanatory reasons exists. Using the significance level of .05 means there is 5 per cent probability that the observed increase in means is caused randomly. Symmetrically, we test whether the score has decreased significantly: checking whether the t-value is less than a negative critical value – 1.671.

As indicated in Table III, the 1993 survey gave “unstable business environment in Iceland” the highest mean score among all export barriers factors; and in the 2011 survey this factor received the second highest mean score. Furthermore, there is no significant difference in the two calculated mean values for this factor in the two respective surveys. In the qualitative part of the study, both in 1992 and 2011, it was clearly stated by the respondents, that with “unstable business environment” they were mainly referring to: uncertainty about government policy, laws and regulations relating to the fishing industry, such as the government fisheries policy and export regulations. Currency restrictions in Iceland were also referred to as a factor explaining unfavorable export environment in Iceland. *“The instability in our business environment is absolutely one of the major problems we have in our exporting and especially our export planning, as we never know what is going to be the official policy for the fishing industry tomorrow”* were remarks made by a managing director in one of the biggest EMC companies in 1992. Similar remarks were made by a managing director in a middle-sized EMC in 2011 as he was quoted saying: *“How the business environment has developed here is very negative. I have started to move my operation abroad, both because of the currency restrictions but also to have better access to raw material.”*

^v “high-score” factors are here defined as factors which fulfill the two conditions of having a mean score of ≥ 2.5 and median score of ≥ 3

The factor with the second highest mean score in 1993 and the third highest in 2011 was “subsidies granted to foreign competitors”. There is no significant difference in the mean values scores for this factor, as indicated by the t-value of 1.493 in Table II. In the qualitative part of the research, this factor was generally claimed by respondents as one of the most severe obstacles or problems which the export firms have in exporting. Among participants interviewed in 1992, this factor was seen to be important particularly to exporters of frozen and salted products. Most of the criticism of subsidization was aimed at Norway and Canada, which generally were seen as Iceland's main competitors in the international markets for marine products. Subsidization of substitute products such as agricultural products, especially within the EEC regime, was also frequently stated to be an important problem.

“High transportation cost to export markets” is a factor generally perceived by exporters as an obstacle in exporting and was in the 2011 survey indicated as the most severe barrier to exports with a mean score of 3.912. In the 1992 research this factor was also identified as a strong problem, mainly by exporters of fish- oil and meal, who claimed it hampered their competitive position against countries like Norway and Denmark in the export markets. Similarly, exporters of fresh fish on ice by air stated high transportation cost as an important export hindrance. The interviews conducted with exporters 2011, supported the importance of this factor strongly, as it was generally expressed as an “obvious” barrier to export. Less frequent sailings between Iceland and some export markets subsequent to the economic collapse in Iceland in 2008, were also mentioned in connection with high transportation cost.

Table III

“High-Score” barriers to export, common to 1993 and 2011 surveys: with a mean score $\geq 2,5$ and median score $\geq 3,0$

	Survey results 1993				Survey results 2011				t-value	Sig. at .05
	Rank	Mean	Median	SD	Rank	Mean	Median	SD		
Unstable business environment in Iceland	1	3,518	4,000	0,894	2	3,649	4,000	1,302	-0,753	No
Subsidies granted to foreign competitors	2	3,286	3,000	1,091	3	3,070	3,000	1,083	1,493	No
High transportation cost to export markets	3	3,268	3,000	1,018	1	3,912	4,000	1,023	-4,711	Yes
High production cost in Iceland	4	3,214	3,000	0,967	10	2,768	3,000	1,279	2,610	Yes
Fluctuations in demand at the export markets	5	3,161	3,000	0,826	13	2,526	3,000	0,984	4,829	Yes
Foreign currencies fluctuations	6	3,036	3,000	0,894	8	2,895	3,000	1,277	0,826	No
Seasonal fluctuations in the fish supply	7	3,018	3,000	0,842	11	2,737	3,000	0,992	2,120	Yes
Geographical distance from export markets	8	2,929	3,000	0,931	12	2,702	3,000	1,295	1,312	No
Shortage of fish due to catch restrictions	9	2,679	3,000	1,064	9	2,772	3,000	0,945	-0,736	No

The factor “high production cost in Iceland” was clearly indicated as an export obstacle by exporters in the 1993 survey. More than eighty per cent of the responding managers in the survey that year, ranked this factor in the range from being "somewhat problematic" to "extremely problematic". However, in the 2011 survey this factor was significantly less important and was only ranked the tenth most important export barrier, with a mean score of 2,768.

“Fluctuations in demand at the export markets” was identified in the 1992 research as a severe problem associated with exporting, ranked the fifth most

important obstacle in exports. In the 2011 survey, this factor seemed to be much less important as it has an average mean score of 2,526 and a significant decrease between 1993 and 2011 indicated by the t-value in the mean score for this factor.

“Price fluctuations at the export markets” and “foreign currency fluctuations” were two factors interviewees in the 1992 study frequently mentioned in connection with the “fluctuations demand” factor. As shown in Table II, “price fluctuations” were clearly indicated as somewhat problematic in exporting in the survey conducted 1992. This factor was especially important to exporters of: fish- oil and meal, whole fresh fish on ice and those exporting various primary processed products, particularly products processed and frozen-at-sea. In the exports of further processed products, such as those exported in consumer packaging, this factor was generally not stated as being of much importance. Managing director in one of the biggest EMCs in 1992 echoed this view well when saying: *"I can't deny that these demand and price fluctuations are a difficult problem in the export of what I would call our "core products" i.e. the land-frozen fillets and blocks. In the "special products", which are mainly these products in retail packaging, however, we see more stability in prices and demand."* It is noticeable that in the research conducted 2011 neither of the above factors seem of significant importance as export barriers. This may indicate that the export of marine products from Iceland has shifted in the almost twenty years period from 1992 to 2011, from being mainly a commodity exports to more exporting of further processed products.

Despite some regularities in the main fishing season in Iceland, “seasonal fluctuations in harvesting” and uncertainty about fish supply was seen by exporters, both in 1992 and 2011, as somewhat problematic, particularly the seasonal disparity between product demand worldwide and supply availability in Iceland. This factor seem to be particularly problematic for exporters of various salted products such as specialized herring products and lump-fish roe producers, but also for exporters of fresh fish on ice by air. This was echoed by the managing director in one of the PIE firms: *"the supply of raw material is so seasonal, and if for example you don't buy lump-fish roe during the catching season you wouldn't get any later on. Financing stocks of raw material is therefore, a significant burden for us"*

“Geographical distance from export markets” was clearly identified as a hindrance to export in the qualitative part of the study, both in 1992 and 2011. However, this seems, not be reflected in the exporters’ response to the questionnaires, and no significant difference is in the response to this factor between 1992 and 2011. Many respondents in the interviews felt, however, that the importance of this factor tended to increase with more advanced processing and value-added to products. Supporting this managers in some more advanced processing PIE firms perceived geographical distance from export markets as a critical factor generally, because they viewed delivery, packaging and "shelf-life" as being of absolute importance in the exporting of their products: *"Geographical distance from the export markets is an obstacle in exporting, even though that is something we can do nothing about. This*

factor becomes especially critical, when you are exporting products which are fully processed and sold directly to the consumer. These products have normally, a limited shelf life, you must be very accurate in product delivery and the packages are usually more fragile." (Managing director of a PIE firm)

In the 1992 research many exporters, especially in the bigger EMCs, expressed concerns over shrinking fish supply in Iceland, due to catch restrictions in Icelandic waters at that time. These managers perceived that "restriction in fish supply" not only restrains their export expansions opportunities, but could also cause the loss of valuable customers. The CEO in one of the biggest export organization illustrated the situation at this time: *"We have been in a starving position for the last 3-4 years. It has been very difficult and it puts a lot strain on all channels within the company. This also means that you lose customers which you preferably would have liked to keep."* Different supply and demand conditions in the export markets in the second half of 2011, especially in Europe, may explain that none of the respondents, interviewed in the summer of 2011, expressed major concern regarding this factor. Still it was ranked as a moderate obstacle by exporters in the 2011 survey questionnaires that followed, just as it was in the 1992 survey.

Table IV

Factors of barriers with a mean score $\geq 2,5$ and median score $\geq 3,0$ and were not commonly identified in the surveys 1993 and 2011

No	Survey results 1993				Survey results 2011			
	Rank	Mean	Median	SD	Rank	Mean	Median	SD
31 Little governmental support for marketing and promotion					4	3,035	3,000	1,375
32 Global economic recession					5	3,035	3,000	1,295
5 Informal ties with producers (processors)					6	3,000	3,000	1,581
27 Price fluctuations at the export markets	7	3,036	3,000	0,852				
33 Foreign competition					7	2,911	3,000	1,431
3 High real exchange rate of the Icelandic krona	9	3,018	3,000	1,087				
6 Import tariffs at foreign markets	11	2,875	3,000	1,237				

Three factors were identified as "high-score" in the 1993 survey but were not identified as such in 2011. We have already explained above the factor of "price fluctuations at export markets" but the two additional ones are: "high real exchange rate of the Icelandic krona" and "import tariffs at foreign markets". The main reasons for the difference seem related to the following facts:

- Questionnaire design: the factor "high real exchange rate" was included in the survey in 1993 due to qualitative responses acquired in the interviews conducted with exporters in the summer of 1992.
- Contemporary short-term currency fluctuations: the real exchange rate of the Icelandic krona was in the year 2011 very low following the strong economic shock in Iceland in October 2008. In 1993 the Icelandic krona was however, relatively high valued compared to the home currencies of Iceland's main

1 export markets and by that creating unfavorable conditions for exporters in
2 Iceland.

- 3 • Change in market regulations: The factor “import tariffs at foreign markets”
4 was still a significant export barrier in 1992 because then salted ground fish,
5 salted herring and fresh ground fish fillets were faced hefty import tariffs in
6 the European market. However, with Iceland’s participation in the European
7 Economic Area Agreement in 1994 most of these import tariffs were
8 abolished.

9 In the survey 2011 we classified four “high-score” factors that were not
10 identified as such in the 1993 survey. Three of these factors were uniquely identified
11 in the 2011 research but one “high-score” factor identified in 2011 was included in the
12 list of survey questionnaires in 1993. “Little governmental support in marketing and
13 promotion” was a factor identified in the interviews with exporters in 2011 as being of
14 significant importance. This view was particularly expressed by managers in some
15 PIE firms, who frequently referred to the strong marketing and promotional support
16 they perceived their Norwegian competitors to receive from the Norwegian
17 government. In the 2011 survey this factor ranked the fourth most important factor of
18 perceived export barriers with a mean score of 3,035.

19 The second factor identified as “high-score” in the 2011 research was
20 “global economic recession”. This factor had a mean score of 3,035 in the 2011
21 survey and was particularly important to the interviewees who were exporting to
22 countries in South- and East Europe. Those exporters had felt a sharp fall in
23 purchasing power in countries, such as Greece, Spain and Portugal that were
24 traditional markets for Icelandic marine products.

25 The third factor, identified as “high-score” in the research 2011 was “foreign
26 competition”. Although, this factor is well-known within the literature of export
27 barriers it was not identified in the qualitative research conducted in 1992 or covered
28 in the following survey questionnaires in 1993. However, the interviews conducted in
29 2011 revealed it as a perceived barriers, but mainly linked with difficulties in
30 competing with cheap fish from China and with so- called “prize dumping” by some
31 of their foreign competitors mainly the Norwegians.

32 The fourth “high-score” factor identified in the 2011 survey was “informal
33 ties with producers/processors”. This factor was included in the survey questionnaires
34 in 1993 but then only got a mean score of 2,143 and was therefore not defined as an
35 “high-score” factor in our analysis. In the interviews conducted in 1992 a
36 considerable number of managers in the EMCs mentioned informal ties and unstable
37 relationship with producers/processors as a problem in their exporting activity. The
38 problem of informal ties with producers/processors was usually directly related to the
39 excessive price orientation by the producers, which often made them switch between
40 exporters on the basis of what prices the different EMCs were offering. The above
41 attitude regarding informal ties with processors was very much confirmed by the
42 exporters interviewed in the summer of 2011.

Table IV

Grouping of the "high-score" factors as internal or external	
Internal	high transportation cost, high production cost in Iceland, informal ties with producers,
External	unstable business environment, subsidies granted to foreign competitors, fluctuations in demand at the export markets, foreign currencies fluctuations, seasonal fluctuations in fish-supply, geographical distance from export markets, shortage of fish due to catch restrictions, little governmental support for marketing activity, global economic recession, price fluctuations at the export markets, foreign competition, high real exchange rate of the Icelandic krona, import tariffs at foreign markets,

As indicated in Table V, a grouping of the identified “high-score” factors as “external” or “internal” shows that the internal factors are much fewer than the external factors. In general the internal factors seem to be less important than the external factors as export barriers. However, this study identified some important internal “high-score” factors which were indicated by exporters as problematic in their exporting activities such as informal ties with processors/producers, high production cost and high transportation cost. As previously stated the external factors are identified as those which are outside the direct control or decision area of the export firms. Our studies identified thirteen “high-score” external factors of export barriers. Some of these factors can be categorized as either industry specific, such as seasonal fluctuations in the fish supply and shortage in fish supply due to catch restriction or country specific such as geographical location. The other external “high-score” factors: unstable business environment; foreign currency fluctuations; lack of governmental support; foreign competition; subsidies granted by foreign governments; import tariffs and quotas; price fluctuations and fluctuations in demand, have on the other hand been frequently identified in other studies as barriers and problems associated with exporting.

1 **Conclusions**

2 Although, limited statistical conclusions can be drawn from the two studies in
3 1992-1993 and in 2011 the results give important indications of the export barriers as
4 they were perceived by the Icelandic marine exporters.

5 None of the factors listed in the surveys 1993 and 2011, appeared to be a
6 major obstacle to exports, as in no instance were the 30 factors listed in the 1993
7 survey and the 35 factors listed in the 2011 survey, indicated as very or extremely
8 problematic.

9 In our analysis, we focused on the most important perceived export barriers,
10 which we defined as “high-score” factors. The study revealed nine “high-score”
11 factors common to both surveys and seven “high-score” factors which were identified
12 in either the 1993 or the 2011 survey. Furthermore, information revealed through the
13 interviews conducted ahead of these surveys, indicates that the obstacles perceived by
14 the exporter seem in many cases to be shaped strongly by the product categories and
15 by the firm's principal activity as an EMC or PIE firm.

16 All the factors of export barriers in the 1993 study and the 2011 study can be
17 defined as either “external” or “internal”. In general, the internal factors identified are
18 fewer and appear to be less important than the external factors. Most of the external
19 factors identified in the two surveys 1993 and 2011 have been repeatedly identified in
20 other studies as export obstacles. However, some of the external factors could be
21 categorized as: country, industry or even product specific

22 The timing and economic conditions in Iceland and in the global economy
23 seem also to influence exporters perception, as in the case of the real exchange rate of
24 the Icelandic krona, currency restrictions and global economic recession.

25 Finally, there are some indications that, over nearly twenty years the Icelandic
26 marine export sector has developed from exporting mainly primary commodities
27 toward exporting more processed products. This is supported by the fact that variables
28 like: price fluctuations at export markets, fluctuations in demand at the export markets
29 and geographical distance are of less importance in 2011 than they were in 1993.

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